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ABSTRACT

Research in college and adult reading for the period from September, 1969, through September, 1970, is reviewed. Over 160 studies are cited in the review which does not include proceedings of the 1970 National Reading Conference or of the 1970 International Reading Association Conference since these proceedings were not available at the time the review was compiled. Reports included in the review are organized under five major headings: Programs; Reading, Study, and Related Habits, Traits, and Skills; Influence of Reading, Study, and Related Habits and Skills; Factors Influencing Reading and Other Study Habits and Skills; and Readability, Testing, Newspapers, and Other. A 163-item bibliography is included. (MS)

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1970 Review of Research on College-Adult Reading

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RE003 426

For the most part, the reports covered in this present review of research in college-adult reading are ones which have appeared since September, 1969, and through September, 1970, a period of time comparable to that covered by last year's review (17) and previous ones. Several earlier reports which were not available at appropriate times to be included in previous reviews and several others which had been unintentionally overlooked before have also been included.

The number of reports included as relevant ones for this year's review is slightly less than the 180 found relevant for each of the

last two years' reviews. This is largely because the proceedings of last year's Conference (136) were not published in time to be included for coverage by the present review. The Yearbooks of this Conference have, in the past, been one of the major sources for pertinent reports. Published proceedings of the last IRA Convention were also not available in time for inclusion. The reports have again been organized under the five major headings used in previous reviews.

Programs

A number of surveys of reading, study skills, and related programs have been reported. (13;25;27;66;112) Results of a review survey, by Bednar and Weinberg (13), of twenty-three studies of influence of various guidance or counseling programs for underachieving college students included indications of the effectiveness of counseling in conjunction with an academic studies program (such as how to study or remedial courses). Results obtained with Harvey's questionnaire survey (27) of community colleges in the State University of New York indicated that eighteen of the twenty-one responding had some kind of reading service, with eleven having remedial reading, eight having developmental reading, and four having study skills (and only one having "speed reading") programs. Only two offered programs for academic credit. Thirty-five percent of the forty United-Presbyterian-Church-affiliated colleges responding to Peck's questionnaire (112) offered remedial English, with only two giving it for credit. Responses obtained from seventy percent of the nation's public and private community colleges, in a survey of American community colleges made through the National Association for Foreign Students Affairs (66), revealed that special procedures for foreign students were arranged by few colleges, that English proficiency and finance status were expressed as major problem areas, and that special English programs were offered by "only a handful" of colleges. Cass (25) presented a list of recommendations and conclusions with regard to television programs for teaching adult illiterates, based on a study of the literature on adult education and television series for illiterates and case study of "Operation Alphabet".

A number of reports were concerned mainly with evaluation of effectiveness of particular or specific reading and/or study skills programs with

college groups. (8;20;67;75;92;94;95;138;149) Bahe (8) examined the effectiveness of a summer program of reading and study skills with two groups of University of Wisconsin (at Milwaukee) "high potential" freshmen. The groups made significant gains in Iowa and Cooperative test scores; but retesting approximately one semester and two semesters later revealed rate as the only significant permanent gain; and grade-point averages of both groups for one or two semesters after the program were lower, but not significantly, to those of control groups. In a program conducted at Quinsigamond Junior College with all students scoring below a twelfth-grade level on a reading test, and in which the overall skill of communication was taught with a team-teaching approach, the average reading grade-level (Nelson-Denny) of the group was reported to have been raised from 11.1 to 11.8. (20) Manzo (95) described a program at Syracuse University which included adults as well as children and in which a procedure of reciprocal questioning between students and teachers was used to promote subjects raising their own questions and setting their own purposes for reading. Post-evaluation results indicated that the questioning group scored significantly higher on a reading comprehension test and on number of questions asked than did a "directed reading activity" group, while the latter group had significantly higher vocabulary test scores. In appraising objectives and validity of a reading course designed to be suitable for presentation to junior college freshmen, Schoenberg (138) found significant Nelson-Denny Reading Test score gains for students at the end of the program; however, no significant differences were found between grades in English courses taken the semester before the program and English course grades the semester following the program. Teachers participating in a reading improvement program described by Stuart (149), as an

integral part of an NDEA institute in reading at Ohio University, made significant increases in Nelson-Denny Reading Test rate and vocabulary scores.

Evaluation of the remedial program of Miami-Dade Junior College, North Campus, led Losak (94) to conclude that the program was not effective in raising grade poing averages to a "C" level or in influencing student withdrawal, had not effected reading test scores higher for remedial program participants than those of a randomly selected control group, and did not result in a significantly higher proportion of passing grades after one semester of remediation. A group of University of Pennsylvania freshmen who had received individual study counseling at the University's reading clinic were reported by Lesnik (92) to have had significantly higher grade-point averages at the end of the year than did a control group who did not receive study counseling. Ho (35) found that changes in study habits and attitudes (Brown-Holtzman) of an experimental group of foreign students who had participated in a series of counseling sessions was significantly greater than those of a control group; but follow-up eight weeks later showed no lasting effect of the change; nor was there found a correlation between change in study habits and attitudes and grade-point average.

Grant (67) evaluated a University of Utah pre-admission program for students who fell below the required high school grade-point average for admission, which program could take one to three quarters for successful completion, including satisfactory performance in none to three remedial courses. After four quarters of the program, slightly over one-fourth of the 1,040 students entered became eligible for matriculation; and slightly less (22.1 per cent) actually enrolled. Grant concluded that

"a pre-admission program makes a small and possibly dubious contribution to the post-high school education of high school graduates of low academic promise" (67:324).

Several reports involved English programs. (15;16;28) Benson (15) described the Florida Inter-American Learning Institute (FILI) at Tallahassee Junior College, a comprehensive program with intensive instruction in English language training in a cultural orientation set up for Colombian students. The program, in which approximately four classroom hours per week were devoted to reading and writing, was judged to be successful on the basis of "feedback from many Florida junior colleges in which former FILI students were enrolled", student reports, "many letters...received from former students", and "increasing number of referrals former students are giving to their friends and relatives back home" (15:38). Colorado State University students in an experimental remedial English class were given assurance by a counselor that they had good potential for achievement in English while a control group was only thanked for participation in the study. Students in the larger experimental class made significantly lower grades in the course than did a control group, while in a smaller class the differences were not significant. Results were interpreted as possibly indicating that counseling resulted in reducing anxiety, which then led to poorer performance. (16) Childers and Haas (28) found that students in a section of college freshman English, at the University of Wisconsin (Milwaukee), who had been given periodic supervision and extensive correction and comment as an aid to writing more effective research papers, did not produce more effective papers (as judged by course grades) than did students who had not received such aid.

A number of other reported evaluations were concerned with programs involving adults other than college students. (12;65;90;97;100;109;127) Panes (109) has reported the preparation of a television reading improvement series of seventeen lessons for adults reading on junior high levels, the series having been based on the writing of a model lesson and the resulting evaluations and recommendations obtained from a panel of judges. Various groups of Procter and Gamble employees, participating in a MIND program, a twenty-week basic skills program in mathematics and in reading and other communicative skills, were reported by Mollenkopf (100) to have made, in general, significant gains (the groups having been at elementary to lower high school skill levels at the start). Becker (12) described the language experience approach carried on with four illiterate trainees at a women's Job Corps center. Various formal and informal measures applied after approximately a year reportedly indicated "substantial achievement" gains. Goodman (65) reported an average reading growth of one year in forty instructional hours in the Wilmington Basic Education Program intended, in part, to prepare students for high school diplomas or the equivalent, with a diminishing of growth rates as fourth-grade level competency was approached. Both groups of Los Angeles Spanish-speaking adults, one utilizing an initial teaching alphabet approach and the other a traditional orthography approach in a community adult school, made significant reading test score gains, but not significantly different gains (127). Leffingwell (90) found that a group of naval recruits reading at approximately third-grade (functionally illiterate) levels made noticeable gains in self-esteem and self-confidence (but reported feelings toward the Navy became less positive). Reading improvement was reported to be "greater

than anticipated" but did not reflect as much growth as was noted informally by instructors.

A number of other reports also were concerned with evaluation; but the main concern was with a comparison of methods or procedures. The great bulk of these reports dealt with college groups in reading and study skills programs. (38;41;51;73;82;84;126;151;156;163) According to Dubois (41), two experimental groups of Northwestern State College (Louisiana) freshmen in reading improvement classes, one using "general reading materials" (College Reading Manual, Range of College Reading, and Listen and Read -- Advanced Edition) and the other using "textbook material" (SRA Reading Laboratory IVa, EDL Controlled Reader Junior, and Better Reading Book), both made significant gains at the end of thirteen weeks on cloze test and reading test scores, and significantly greater gains than did a control group. Finding no significant differences between the two experimental groups led Dubois to conclude that "in order to improve the textbook comprehension of college students, it makes little difference the type of materials one uses" (41:166). Foreman (51) found that a group of students who participated in a typical study skills program in combination with a self reinforcement treatment did better on several measures, including reading test and study habit scores, than did several other program groups (which, in order of success, were study skills group, operant conditioning group, and control group). Hampton (73) found no significant differences between comprehension scores (California Reading Test) of freshmen students in a Kentucky college remedial reading class taught by use of multi-level materials (assigned on basis of Nelson-Denny scores) and scores of a group taught by use of mono-level materials (eleventh-grade

level), after 15 instruction sessions. Roberts (126) found that none of three different practice schedules for male college reading program students (practice sessions varying from 3 to 5 a week and from 30 to 50 minutes in length) produced significantly more superior reading achievement scores; but all schedules were found to produce results superior to those produced with no practice. An experimental group of Metropolitan State College (Denver) students who scored low on entrance tests and who had received remedial reading help in a "traditional classroom" program had significantly higher grades the next quarter than did an experimental group who had received reading help in a self-help laboratory setting in which other students served as superviosrs; but differences between grades were not significant the following quarter. (163) Persistence rates of the experimental groups were significantly greater than those of control groups.

Khatena (84) found indications that training with each of four thinking strategies employed with 100 University of Georgia students produced improvement in thinking creatively with words (as measured by two tests developed by the investigator). Whitehill and Jipson (156) found that "introverts" and "extroverts" (Eyesenck Personality Inventory) did not differ in "traditional method" programs but did significantly (favoring extroverts) in experimental programs which utilized instrumentation beyond that found in traditional programs. Thompson and Whitehill (151) interpreted differences in practice material rate gains made in three weeks by three flexibility levels of University of Wisconsin reading program participants as substantiation of the hypothesis that greater rate gains would be made by the more flexible readers. Both of two groups of University

of Kentucky male underachievers receiving counseling help, one by means of group counseling, the other by behavior therapy procedures, and both receiving practical suggestions for improving academic skills, made significant gains in grade-point averages; but qualitative differences were found between the two groups in changes on anxiety and fear variables (38). No clear superiority was shown for any of three group counseling procedures (model reinforcement counseling, disensitization counseling, and group counseling) on study behavior performance of 87 University of Calgary freshmen requesting assistance, out of the 500 to whom the counseling was made available; but results indicated that counseling procedures were more effective than no counseling. (82)

A comparison of methods or approaches was also involved in two adult literacy programs. (39;97) Dornish (39) who compared achievement of an experimental group of functionally illiterate adults who had participated in a face-to-face program in which instructional television had also been used with that of a control group who had participated in a summer program without television, found no significant differences between the groups in auditory comprehension, reading vocabulary, and reading scores. Young adult illiterates made significantly greater gains than did the older subjects. Comparison of reading test score gains of Oregon Job Corps women who received individual, small group, or regular remedial reading class instruction for forty sessions revealed no significant differences among mean scores. (97)

Listening training was also involved in several comparisons of instructional methods or approaches. (19;68;148) Grafton (68) found both experimental groups of college students in public speaking classes, one

group having received 20 direct listening lessons and the other having 20 speaking skill lessons which were designed for indirectly improving listening skills also, made significant gains in STEP Listening Test scores (while control groups did not); but neither method appeared to improve ability to listen to and to comprehend lecture-type materials once students were out of the experimental situation. In a training program in listening reported by Stroh (148), with experienced industrial salesman, both a group in which a video-tape feedback (of a simulated selling session) method and a group in which audio-taped feedback was used made significantly more score improvement in several listening areas than did a control group; but neither group improved significantly more than the other. Barabasz (19) found no significant differences in immediate or delayed retention test scores between the control group of college students in human behavior and development classes who had listened to a regular class lecture and two experimental groups, one which had listened to a tape-recorded presentation of the lecture and a second which had listened to a tape-recorded version presented at a rate one-third faster than the actual presentation.

Reading, Study, and Related Habits, Traits, and Skills

Among findings obtained by Anderson (6) in an investigation of characteristics and attitudes of students in sixteen Kansas community junior colleges were that 46 and 36 per cent, respectively, of almost 8,000 students responding rated themselves as "average" or "somewhat above average" with regard to willingness to spend more than ordinary scheduled time to completing a given task; 58 per cent and 24 per cent, respectively, on questioning truth of printed statements made by persons in authority; 45 per cent and 27 per cent, respectively, on public speaking abilities; and 54 per cent and 18 per cent, respectively, on writing ability. Analysis of logs of weekday communicative activities collected in a questionnaire survey of 400 randomly selected San Diego adults (135) revealed that "high communicators" were, in order, administrators, salesmen, students, teachers, and professionals; farmers, housewives, clerical workers, skilled craftsmen, and retired people ranked low; highest speaking time was logged by salesmen, teachers, and administrators, highest listening time by administrators and students, and highest reading time by retired people, students, and engineers; reading was logged lowest by 50 per cent of the group, with only engineers logging it as highest; approximately two-thirds of respondents' waking hours were devoted to exercise of speaking and listening skills.

Ames (3), applying an earlier established classification scheme of contextual aids to incorrect responses of college students obtained in the earlier study, found "words connected or words in series clues" as the most frequently used aid but the one with lowest success, with "question-answer clues" yielding a high percentage of success but being used rather

infrequently. Kirkman (86), after giving vocabulary tests to 2000 first-year students at Southern University, found Arts students scoring highest, Social Science next, Pure Science at the middle, and Applied Sciences and Agriculture students lowest. Gifford and Somer (63), in an interview survey made in dormitories on eight different college and University campuses, found approximately the same number of students studying on beds as at desks, with no differences between grade-point averages of the two groups. They suggested that consideration be given to softer and more comfortable furniture in study halls and libraries.

Among findings obtained in a study of factors associated with success or failure of 131 freshmen students on educational opportunity grants at Northern Illinois University were that inner-city high school students were inadequately prepared to do college work and needed to do remedial work in reading, mathematics, and English; that students who had graduated from 80-per-cent-Negro high schools scored significantly lower on the Davis Reading Test and all parts of the American College Test; and that those who received grade-point averages of 1.8 or lower at the end of the freshman year did not know and had not developed good study habits during the freshman year. A survey study of the 1967 Fall freshman class at Morgan State College (predominantly Negro and considered, in general, "culturally disadvantaged") and freshmen enrolled in several other institutions which were predominantly white, during the same period, found 60 and 55 per cent of Negro and white groups, respectively, preferring "mostly assigned" to "mostly independent" work. Approximately 30 per cent of Negroes and 40 per cent of other students felt their high schools had taught them little of how to study. (56) Among recommendations made by

Dotson (40), after a study of various characteristics of Appalachian members of Moorehead (Kentucky) State University freshmen, were that an "Upward Bound" type of program should be instituted for high academic-need disadvantaged students, one that would include pre-freshman year remedial work.

When 55 freshmen who were first to apply for junior college admission (Marshalltown, Iowa) were compared with the last 55 to apply, Jackson (79) found significant differences favoring the early group in English test scores and in overall reading ability. Finch (48) has pointed out that more than half of two-year college students are in need of remedial or "compensatory" programs.

Data collected by Yarington (162), from freshmen university students on time chart forms in which students kept records of all reading they did for a week, indicated considerable variation in hours of reading per week, with means ranging from 10 to 21 hours. Analyses and profiles resulting in a study carried out by Belson and Barban (14) to determine whether "inner-directiveness" and "other directiveness" (Riesman's theory of social character) was related to exposure, exposure extent, and preferential feeling for each of 20 popular consumer magazines, indicated rather clearly that social character is not significnatly powerful in invoking reading frequency or magazine preference.

In Atwood's study (7) of prediction of preference for newspaper stories involving both editor and newspaper staff views and subscriber views, staff and subscriber selection patterns were found to be rather similar, with "impact" and "conflict" the most preferred news element. Poorest prediction of subscriber preferences was made by those holding desk jobs.

Among indications yielded as a result of analogies made, by Patterson (110), of reactions of groups of scientists, educated non-scientists, and communicators to a 4-page facsimile paper with considerable science-type content were a genuine interest in science and considerable reading on the part of a considerable portion of participants, with general agreement among groups with regard to preference for articles pertaining directly to people and general rejection of straight news articles, and a lack of consensus with regard to preference for a science page. Rarick (119) reviewed evidence obtained through earlier interviews indicating that women read more newspaper content concerning the home and family while men read more content concerning matters considerably removed from the home. Cole (31) has pointed out an increase in the number of English language newspapers in non-English speaking countries in recent years, with 250 currently being published and with 100 of these having been started since 1930 and over 25 since 1960. Roeder's study (130) of leisure reading habits of female teachers and non-teachers was treated in last year's review (17).

A survey of readership of The Lutheran, carried on by a national research organization, revealed an average of 921,000 readers per issue, making it third in number of readers among Protestant periodicals. (144) Among men, it was read most by ones in the range of 35-49 years, with a median age of male readers (46.9) older than average and that of women readers (43.4) younger than for most other denominations. Men readers were about equally divided among those without high school, those with high school and those with college education. Among women, 46 per cent had high school education and 22 per cent were college graduates. Less

than 71 per cent of the readers were black. Two-thirds of the readers were city dwellers. Readers ranked lowest among denominations with regard to purchase of hardback, but highest with regard to purchase of paperback, books.

Clarke and Ruggels (30), in their interview study with a sample of Seattle householders, used a sample of specific news items rather than the more usual global questions and found indications that TV was much less preferred than earlier studies indicated as a chief information channel. Radio and television were mentioned more often than magazines as a source for international news but less often than newspapers; broadcast media were picked even less often for national affairs. Among conclusions reached were that persons depending most on broadcast media have "low education and average or below-average knowledge and interest in public affairs; these media achieve their greatest impact during times of heightened political activity" (30:470).

Mishra (99) found greater mass media use by groups of Greater Delhi (India) residents than was anticipated on the basis of UNESCO data. Approximately 40 per cent read one or more newspapers at least once a week, with even 12 per cent of illiterates joining groups where newspapers were read aloud. Radio was the most popular medium used among Bastie dwellers (68 per cent listening at least once a day); but approximately 40 per cent read one or more newspapers once a week or more. Twelve per cent viewed television somewhat frequently; and 11 per cent and 8 per cent, respectively, read magazines and weeklies. Schnieder and Fett (137) found Brazilian farmers made much greater use of radio sources than newspaper sources for the limited credit information they possessed; but they also

found little of credit content value in newspapers. A study by Smith (141), of characteristics of the U.S. audience listening to international broadcast via shortwave radio found listeners still to be considerable, with audiences characterized by greater proportion of males, college educated, and professional and skilled occupations.

Palmer (108) studied eye movements of adults and basic adult evening classes reading at three different levels, from third grade to tenth grade. He found fewer eye movements at more advanced reading levels only when total fixations, including regressions, were considered; but no significant differences among levels were found for number of forward fixations, with subjects at all levels tending to examine words letter by letter. Tobin (152) cited figures, reportedly based on UNESCO data, to show that the world population increases each year at a rate of 7,000,000 and that over 800,000,000 are now unable to read and write; but the actual percentage of illiterates has declined from 44 per cent in 1960 to 34 per cent in 1970.

Bazik (11) found that groups of male junior college students who sought counseling scored lower on ability (Otis) and academic achievement tests (including Nelson Denny Reading Test) than did a group who had not sought counseling; and a group which had volunteered for counseling scored lower on the measures than did a group who had sought individual counseling. Lesnik (92) found many of the University of Pennsylvania students in a counseling group to have consistent difficulty in approaching reading and study as a thinking process. Chang's study (26) of over 500 underclassmen in a predominantly Negro southern college, a majority of whom were enrolled in the college's remedial program, found non-remedial students receiving higher critical thinking (Watson-Glaser) scores than did

remedial students of both sexes, with females of both groups scoring higher on the "dogmatism" scale than non-remedial males of both groups and non-remedial males scoring higher on "independent judgment" than remedial males. Abney (2) found no significant differences in mean creative thinking scores between a group of University of Arkansas juniors and seniors enrolled in an honors program and a non-honors group with a comparable grade-point average, nor between means of the non-honors group and a control group with lower grade-point averages; but significant differences between means of the honors and the control group were found. In a comparison of groups of Temple University students with one another and with other students, Eisenman (45) found English majors scored significantly high and Business majors significantly low on measures of creativity.

According to Cleveland Amory (4), in one of his "Trade Winds" columns, the instructor for the developmental reading program at a well-known university obtained answers from students in a current events quiz which included some of the following identifications: Patrick Moynihan as an instructor at Notre Dame, Gil Hodges as a comic strip character, David Kennedy as a Notre Dame student body vice president, Bobby Seale as a singer, Abbie Hoffman as the writer of the syndicated "Dear Abby" column, Clement Haynsworth as a football player, and Golda Meier as a "Laugh-In girl".

Influence of Reading, Study, and Related Habits and Skills

Indications of the importance or influence of reading-study, and related, skills and habits were obtained in a number of reported studies. (Not all indications were positive.) Several reported prediction studies have some pertinence for this area. (18;22;29;59;60;77;125;133) Brown-Holtzman SSHA scores of University of Texas engineering freshmen were not found, by Gallessich (59), to be among the ten "most efficient" predictor variables for academic success. In a study of factors affecting scholarship of Pennsylvania State University undergarduates living in fraternity houses, Rhodes (125) did not find study habits (Brown-Holtzman) to be significant as a predicting factor. However, among higher attributes of successful (in upper third on grade-point average) beginning engineering students at Tri-State College (Indiana), compared with an unsuccessful group, were better study habits (Brown-Holtzman scores). (60) Bradshaw (18) found the effectiveness of several tests, including the NDRT, in predicting academic achievement of college of engineering students at Oklahoma State University varied from group to group, being most effective in predicting successful engineering students and least in predicting for engineering technology students. Cooperative English Test scores (vocabulary and reading) were among several variables found by Husemoller (77) to be heavy contributors to prediction of academic success of Eastern New Mexico University freshmen. Russo (133) concluded that of the various prediction of variables he studied the best single predictor of academic achievement of students in Arizona junior colleges was ACT English score.

Expectancy tables constructed by Carbuhn (22) as a result of his correlation study of factors in successful completion of General Educational

Development programs by Utah Job Corpsmen suggested a minimum (Gates Reading Survey) grade score of 7.0 for pre-GED screening purposes and a minimum SAT paragraph meaning grade score of 7.0 for success in passing the GED Literature test. In their study of procedures for identifying and analyzing disadvantaged students, Clarke and Ammons (29) found cognitive factors to be significant predictors for academic success for all groups of St. Petersburg Junior College entrants studied--except in the case of Negro males. Rainwater (117) reported that research by the General College, Eastern New Mexico University, has shown that the twentieth percentile on the Diagnostic Reading Test is "the absolute minimum for predicting academic success" (117:25). Feuers (47), studying the relationship of reading comprehension scores (Davis and Nelson Denny Tests) to achievement of junior college students in eight different curricular areas, found significant differences among the areas for each of the reading comprehension measures; significant differences between males and females were in general not found; significant relationships between comprehension scores and college grade-point average and between vocabulary scores and college grade-point average were also found, but not sufficiently for adequate prediction purposes. A comparison, by Munday (102), of transferring terminal junior college groups in three states showed ACT composite mean scores consistently higher for transfer students; but differences were "not great". The highest relationship to grade-point averages of junior college transfer students at Florida State University was found, by Nickens (104), to be with junior college grade-point average, with the correlation with Florida Twelfth-Grade Tests total scores being next, but considerably lower. (The English scores of the latter tests were correlated almost as highly as

were the total scores.) "Skills acquisition at the sub-freshmen level" and "learning how to teach reading as a basic skill" were expressed as important concerns of junior college teachers in a Carnegie-Corporation-subsidized national study of English in junior colleges, with one-third agreeing "that all English teachers have some responsibility to improve the reading skills in their classes" (140). Worsley (161) found ACT English scores, with a correlation of 340, only slightly lower in correlation with first semester grade-point averages of Arizona freshmen than the most significantly related variable, high school grade-point average.

Further indications of the role or importance of study habits and skills were contained in a number of other reports. (35;71;93;128;132; 142) Curris (35) found poor study skills among the characteristics marking University of Kentucky fraternity pledges who experienced greatest academic decline during the pledging period. Hackman and Duysinger (71) reported that among reasons given, through questionnaire responses of students and parents, for withdrawal of over 1,100 students from three liberal arts colleges was "my study habits are poor". Dropped male and female groups were highly dissatisfied with advisement and scholastic habits, while persisting males and females were highly satisfied, in Robinson's study (128) of factors in the persistence or dropping of 2,800 University of Illinois students. Persisting males expressed high dissatisfaction with counseling (which included help in remedying inadequate study habits) and study arrangement factors, while dropped males expressed high satisfaction with these. The study habit scores (Brown-Holtzman) of California State College (Fullerton) freshmen withdrawers and persisters did not differ significantly, although those of withdrawers were lower and differences

approached significance. (132) A group of Princeton Probationary students did not differ from matched students in the degree to which they attributed their academic difficulties to improper studying, failure to follow a study schedule, and distractions. (142) Lin and McKeachie (93) found that groups of low and high anxiety introductory psychology course students did not differ significantly, in general, with respect to grade and criterion test scores; but they found that, in general, students with high study habits scores achieved significantly higher grades than did the groups with poor study habit scores.

On the basis of questionnaire responses obtained in a follow-up study of 1940 Champaign (Ill.) High School gradulates, Dahl (36) concluded that communicative skills courses were among the courses which appeared to have considerably more value than many others were willing to concede. English received a rating by respondents as the most valuable single course taken. (Business Education and Mathematics were the only other courses receiving any appreciable mention.) Among factors found significantly different by Killian (85) between persisting and withdrawing students in an adult high school laboratory program was reading achievement level (as measured by Reading for Understanding tests). Nelson-Denny Reading Test scores were one of the only two variables found to be significantly different between groups of voluntary and involuntary counseling clients studied at Thronton Junior College (Arizona), with the involuntary group scoring higher than the other group. Pope (114) described an educational program for adult American Indians from Wyoming and Montana, at the University of Montana, in which students continue until achievement levels are high enough to qualify for vocational school, for which eligibility requirements include

being able to score between fourth and eighth grade levels on the Nelson Reading Test

Abel (1) found that elements were omitted from stories more by those students in elementary reporting courses who did not take notes, after listening to a taped, 7-minute, fictitious interview, than with those who did; but facts were more apt to be recorded wrongly by students who did take notes.

Factors Influencing Reading and other Study Habits and Skills

The influence of personality factors was a concern in several reported studies. (46;57;81) In an investigation by Jensen and Knecht (81), in which introductory psychology class students at Brigham Young University were exposed to different types of persuasive written communications, none of the four personality measures studies was found to be associated with attitude change of either sex after exposure to a factual message, or for males after emotional message exposure. A conforming message was positively related to "intolerance of ambiguity" but negatively to "measures of anxiety" and "authoritarianism" in the case of males. For females, "self-concept" was positively, and "measure of anxiety" negatively, related to conforming appeal, while "measure of anxiety" was positively related to the emotional appeal. Fulton (57), in a study involving approximately 250 undergraduate listeners, found three (out of five) personality factors (agreeableness, culture, and conscientiousness) to be significantly correlated with speaker credibility. Entwistle and Entwistle (46), in their correlational analysis of Eyesenck Personality Inventory scores, study methods, and academic motivation of British university and college of education first-year students and academic achievement, found indications of superiority of introverts and of students possessing good study habits, no relationships between neuroticism and achievement, and stability and introversion related to good study habits.

Factors influencing study habits were of further concern in a number of other reported studies (49;83;88;96). In a study involving groups of male freshmen in liberal arts courses, Fitzpatrick (49) found significant differential relationships of some study habits and attitudes areas

(Brown-Holtzman) with course grades and student satisfaction in theology and history courses. University of Nebraska students who were exposed to less difficult unit examinations (50 per cent difficulty level) in an introductory Educational Psychology course achieved higher scores on the final course examination and studied more during the course than did those students who had the more difficult unit examinations (70 per cent difficulty level). (96) Jones (83) found no significant differences in SSHA scores among groups of Illinois community junior college students grouped in unstructured fashion or divided into various types of sub-groups with or without instructor guidance. Kuder (82) reported finding no significant differences between study habits of upperclassmen living in dormitories and those living in fraternity houses at the University of Oregon.

A number of other reported studies involved recognition of, or reaction to, words. (32;33;72;101;115;135;143;155;158) In a study of free recall of 32 University of British Columbia students in a summer course in experimental psychology, Corteen (32) found relatively more frequent recall of unfamiliar words when these were presented in mixed lists of familiar or unfamiliar words than when presented in unmixed lists. Hakes and Cairns (72), in a study in which 20 introductory psychology students (serving as part of a course requirement) in each of two groups were asked to listen for words beginning with a particular letter in a sentence and to paraphrase a sentence, found comprehension better when relative pronouns were present than when these were deleted. When subjects in another study (148) were asked to match each of briefly exposed three-letter or five-letter artificially constructed words with one of a list of nonsense trigrams or quingrams, graduate and undergraduate subjects were found to

be using strategies which were complex and involved both visual and oral cues, while kindergarten subjects made no use of consistent cues and first graders used initial and final letter cues. Muller (101) concluded that a phonics approach would perhaps maximize instructional efficiency in beginning reading with children, after analyzing results obtained with ten volunteer subjects from upward division education courses who were assigned to various treatment activities with artificial letters and learned nonsense names for artificial words made up with the letters. Poulton (115) established different desirable combinations of ink density, content ratio between ink and paper, and brightness ratio by having adult subjects search for particular words in lists, under varying conditions.

Crain, Dieker, and Brown (33) found the following increasing order of arousal effect (GSR and heart rate), in 62 Western Michigan University students, of "pleasant", "personal", and "adversive" words presented through five modes of communication: reading, listening, writing, speaking, and evaluation. Personal words had significantly more arousal effect than either adversive or pleasant words. The males in a group of Springfield College freshmen exposed to a film presentation of "good impression value" and "bad impression value" words were found by Walsh (155) to recall more "bad" words than "good"; females in the group did not recall significantly more of either type. Sales and Haber (135) found no differences among three groups of University of Rochester male undergraduate students, in large introductory psychology courses, in the naming of letters of tachistoscopically-presented "very frequent neutral", "very rare neutral", and "taboo" words; but they did find that clarity of letters was poorest for the "taboo" words, which they viewed as an indication of a perceptual

defense effect. Sprafkin (143) found experimental subjects' (male Ohio State University introductory psychology students) changes in synonym ratings and increase in confidence to use terms appropriately related to desire to please or to reach agreement with a counselor rather than the reported level of expertise of the counselor.

Dwyer (42;43;44) has presented further reports of his studies of use of visual illustrations in TV instruction. (An earlier report was presented at this conference last year.) Results obtained in this study, which involved an orally presented television lesson on the human heart and 157 Pennsylvania State University students in a speech course, indicated that, in general, the use of varied visual illustrations to complement oral instruction does not necessarily improve student achievement.

Another group of studies had pertinence for the area of listening comprehension and skill. (19;52;76;106;157) Brilhart (19) found no consistent relationship between perceptual field-independence and attitude shift of groups of Pennsylvania State University student listeners when either the speaker was rated good and the speech of poor quality or the message was rated high quality and the speaker good; but she did find significant relationship between perceptual orientation and relative focus on speaker or message. When groups of undergraduate students took notes of "important elements" while listening to a recorded prose passage, Howe (76) found a significant probability of recall a week later of important elements reproduced in students notes, but a very low probability of recall of items for which no notes were made. In a study of relative effects of four patterns of communication (106), significantly more material was recalled by general psychology course subjects who listened to one rather

than two transmitters and subjects who listened rather than talked and listened. In a study of comprehension or listenability of radio messages, involving cloze procedures used with Finnish University students, no significant correlation between judged comprehension and cloze score, but significant correlation between interest and comprehension, were found, leading Wiio and Nordenstreng (157) to conclude that it is more difficult to separate interest and comprehension in spoken than in written messages, especially in the case of persons of lower education levels.

A number of studies involving "compressed speech" were also relevant for the listening area. (52;61;62;64;122;129;146) When twelve groups of college students in psychology and education classes listened to a tape-recorded presentation of a listening selection at different rates, varying from 125 through 400 words per minute, comprehension and test results obtained by Foulke (52) indicated a rapid decline in comprehension after 250 words per minute but not a statistically significant loss until after 300 words per minute. Goldhaber (64) found the main effect of rate to be significant in listening comprehension of junior high school and college undergraduate students. He also found a significant main effect of academic level, with the scores of junior high subjects being significantly greater than those of college students. Sticht (146), using one form of comprehension test as a listening test and the other form as a reading comprehension test, found no significant differences between listening and reading comprehension scores within groups of different mental aptitude levels; he did find an overall decrease as difficulty level of material increased. When George (61;62) had different groups of Indiana State University freshmen listen to simplified and original versions of

Nelson-Denny Reading Test selections, at different compressed speech rates, the decrease in retention was least following the slowest (125 words per minute) and greatest following the fastest (375 words per minute) rates, with significantly more forgetting occurring at the lowest rate than at the highest rate, and with neither difficulty level nor retention interval playing a significant role. Reid (122) used rewritten versions (reduced in grammatical complexity) of the comprehension test of Forms A & B of the Nelson Denny Reading Test presented orally at four different rates, with Indiana University and University of Louisville freshmen and sophomores. When subjects were tested with the original questions, average comprehension scores were found to be greater with the simple than with the original material; comprehension increased, but not significantly, from 175 words per minute to 275 words per minute, but decreased significantly from 275 words to 325 words per minute, and from 325 to 375 words per minute. The finding that the simplified Form A yielded high comprehension but the simplified Form B version had no effect was interpreted as suggesting that the rewriting rules used produced inconsistent results, which were not detectable with the readability indices used. When Rocco (129) obtained comprehension scores from 12 groups of college students who listened to compressed tapes which varied, among groups, in rate of speed presentation and length of pause times within a passage, he did not find any significantly beneficial effect on comprehension resulting from addition of varying pause times.

Several other studies had pertinence for the area of mathemagenics. (53;54;55;113) In a series of three studies in which thinking about the text they were to read was promoted in adult subjects in various ways,

Frase (53) obtained indications that finding difficult inferences results in high recall but does not promote correct inferences and that recall is a function of structural organization of text and ease in making verbal connections. In another study, Frase (54) found both productive and reproductive memory of groups of paid college subjects increasing with number and complexity of conclusions required while reading passages. In still another study (55), one experimental group of educational psychology students, who read biographical texts with questions placed either frequently or infrequently in the text and before or after the relevant materials, was compared with a control group who also read the text but without questions. The advantage of postquestions over prequestions diminished as the level of motivation or incentive (effected with varying monetary rewards) decreased, while the reward or incentive factor became dominant with infrequent adjunct questions. An experimental group of Utrecht University students who had guessed answers to prequestions before reading a post-selection and another experimental group which had merely read the questions both achieved significantly better on delayed retention of question-relevant content (related to pretest questions) than did two control groups, one of which had no prequestions but equivalent extended reading time and the other which had no prequestions or extra reading time; but the experimental group's delayed retention of question-irrelevant content (related to new questions) was significantly inferior to that of the extended-reading-time control group.

Influences on retention and recall were also the concern in some other studies. (70;80;87;131;160) Rogers (131) reported that none of various degrees of alliteration had a significant effect on retention (at various

intervals) of sentences presented to groups of University of Arizona introductory psychology class students; but with addition of capitalization or instruction attention cues there was significant facilitative effect on retention. When approximately 350 Washington Square College students in advanced psychology classes were given an objective test over material from introductory psychology courses which they had taken a previous term, approximately half failed the test. A low but significant correlation, .26, was found between number of semesters since the first course and test scores. (70) The written recall of a control group of ten college students who had read prose material aloud into a microphone 24 hours earlier was found by Kravitz (87) to be significantly superior to that of an experimental group which, after reading prose aloud, had received delayed auditory feedback of their reading. Jensen and Anderson (80) found that a control group which had read an unrelated prose passage after reading a passage concerning theory of personality satisfaction made more correct and less incorrect responses on a recall test than did an experimental group of Brigham Young University psychology students who had read a related but unfamiliar and more difficult passage after reading the original passage. Wong (160) found no significant differences on tests of original learning among six groups of college sophomores in educational psychology courses who, after original reading of materials to be learned, had read a second passage which varied by groups in degree of similarity to the originally read material and where time of testing after interpolated materials read varied by groups from one to seven days.

In an additional study of news media, involving interviews by graduate students of 200 Oregon householders, Lemert (91) found television the

only one of 4 media to which two advantages, "immediacy" and "better personnel", were attributed by a majority of respondents; "completeness" and "habit" were seen as advantages for newspapers by slightly less than half of the respondents. In another study, involving British mass and elite newspapers and a discriminate function analysis procedure for classifying editorials, Namenwirth (103) obtained indications that one (only) national newspaper does not necessarily reflect a single or a national elite orientation.

Another group of studies dealt with influences on attitude or opinion changes. (98;107;147;150;153) McCroskey and Combs (98) studied the effects of analogy use on changes in attitude and source credibility. Tolela and Goldberg (153) reported that articles on air pollution read by groups of Manchester College undergraduates were significantly more influential in effecting opinion changes when the articles were attributed to "high ethos" (high prestige credibility) groups than when attributed to either a "high ethos" or "low ethos" individual or collection of individuals. In another study of opinion change, by Stone and Chaffee (147), university students in introductory journalism courses gave further indications that strongly message-oriented persons tend to focus heavily on content and to disregard or minimize source cues while the strongly source-oriented persons tend to slight message cues and focus on source cues. Tannenbaum (150) found that presenting messages which posed arguments against a generally unchallenged belief and then refuting the arguments tended to reduce changes in attitudes resulting from subsequent messages attacking the belief. In a study carried on with Drake University social science classes (107), high level fear-arousing editorials, attributed to Pravda or New York Times and

concerning chemical-biological warfare, seemed less effective than low level fear-appeal in modifying opinions on international cooperation with regard to chemical biological warfare, with source looming important in determining fear-arousal level.

Culbertson (34), in an investigation of factors influencing judgment and interpretation concerning controversial topics carried on with two widely varying audiences (Michigan farmers and Ohio University students) and message topic (raising beef cattle and hard-line versus soft-line treatment of criminals), found confirmation for the hypotheses that core quantity (a function of size of context with which compared) would be defined by subjects as large when within-message context was small, with the hypotheses holding mainly when the context relevance was high. Resnick (124), using both children and college students in studying relationships between perceptual and syntactic factors, found both eye-voice span and stops increased with educational level; but college subjects who performed under perceptual strain read like third graders. She concluded that, while syntactic control is developed independently but not automatically as perceptual skill improves, perceptual control is necessary for the former to develop.

In a study of interest to and somewhat related to reading, Oldfield (105) found that questionnaire responses obtained from over 100 students and staff members in two British university schools of music revealed left-handedness would be no more common in the group of musicians than in an undergraduate psychology population previously studied; and it did not appear to occasion any particular difficulty. Barnsley and Rabinovitch (10) found no significant differences between preferred and non-preferred

hand performance of 50 male and 50 female adults, concluding that the usual questionnaire technqiue for determining handedness is not dependable for determining range or differential manual proficiency and that "hand performance is the production of highly practiced and over-learned skills in the preferred hand" (10:361). Sears (139), after analysis of writings of four authors with journalistic backgrounds and four with non-journalistic backgrounds, found the former group using shorter sentences and shorter words, preferring active voice construction, selecting more strikingly vigorous word symbols, and using more personal words, a greater amount of dialogue, and concrete words in preference to abstract ones.

Williams, Cannon, and Harding (159) succinctly reported an experimental study allegedly carried on in men's and women's residence halls at the University of Nebraska to test the hypotheses that "learning and subsequent retention of information presented in the john is greater than learning and subsequention retention of the same information presented in a more conventional setting" (159:331). Responses obtained with the questionnaire, intended to assess recognition of information in a handout on listening skills, led to the conclusion that "the personnel worker who wants to reach students must consider using the john to reach them" (159:331).

Readability, Testing, Newspapers, and Other

A number of reports were relevant for the area of tests and testing. (23;24;51;50;118) Carr (23) described the construction and tryout of a test of problem-solving ability in physical science in colleges, intended for use with nonscience majors. Carver (24) has described the development of a test item which involves rewriting words, or "chunks", so that the changed meaning is detectable by readers of the original passage but not by ones who have not read the passage. He interpreted as evidence of validity the finding of significant correlations between scores obtained with chunked items and multiple-choice form items. Follman (50), who presented an earlier report of his factor analytic study of critical thinking, English, and logical reasoning tests at a previous conference, concluded that critical thinking is a composite of specific small group factors rather than a general ability. Rainwater (116) applied both crude gain and residual gain formulas to reading score gains of Eastern New Mexico University Reading Program students. Significant gains were reportedly shown only by the crude gains method. Ramsay's study (118), not directly connected with reading but of some significance for research frequently done with adults in reading, involved first-year psychology students at the University of Amsterdam who were required to be "volunteers" for experimental testing. Results obtained confirmed the hypotehsis that introverts volunteer early and extroverts late in the academic year, suggesting that samples from first year psychology students, at different times during the year, are not necessarily homogeneous.

Several additional investigators were concerned with newspapers. (69;89;111;119;145) Grotta (69), in an investigation of attitudes on

newspaper accuracy and external controls, found indications that suggestions for improving external controls on news coverage will be tolerated more by persons who give newspapers a low accuracy rating and that persons frequently in the news will give lower accuracy ratings than persons having little or no direct contact with newspapers. Among major causes of subjective inaccuracies found by Lawrence and Grey (89) in newspaper reports in the San Francisco area were insufficient background information for reporters and lack of personal contact with the news source. Payne and Payne (111), in a study of crime rate changes during the 1964 and 1968 Detroit newspaper strikes, found significant decreases (in comparison with a five-year average) in "non-expressive" crimes (such as robbery, burglary, and auto theft) during strike periods; the trends in "expressive" crimes (such as assault and rape) were inconsistent and not conclusive. Analysis of fourteen Black newspapers in the United States confirmed Stevens' hypothesis (145) that the papers stressed racial more than racial conflict and that cooperation both between races and among blacks was stressed.

Readability was a topic of interest in some other studies. (21;37;58; 120;123;154) Rentel (123) had University of South Carolina and University of Tennessee upper class students predict four categories of words at three word-length levels on a cloze test of reading comprehension. Difficulty of predicting words increased significantly, but not uniformly, across all language categories as words increased in length, with adjectives being least affected by length and most difficult to predict and nouns and pronouns being easiest to predict. Tretiak's analysis (154) of the 1961 edition of the McCall-Crabbs Standard Test Lessons and recalculation of the Lorge readability formula, which was based on the original 1926

McCall-Crabbs Standard Test Lessons, revealed that one of the Lorge formula factors, ratio of prepositional phrases, was unreliable and contributed little to prediction. When Burford (21) applied the Dale-Chall readability formula to earth science textbooks of East Texas State University freshmen, he found readability levels of two texts were college level, three were twelfth-grade level, and one was eleventh-grade level. The reading levels of some 500 freshmen earth science students ranged from eighth-grade to college level. Davis (37) in comparing Flesch readability scores of 29 employee handbooks with the counterparts in the same organization 15 years earlier (at which time it was judged that 92 per cent of the handbooks studies were too difficult for intended readers), found a change in the predicted direction of more readability; but the change was small. He concluded that only 11 of the 29 handbooks studied were of suitable readability to reach those employees who lacked a college degree, the majority of employees. In the majority of news areas studied by Razik (120), articles in metropolitan papers were found to be written at or below ninth-tenth-grade level (Dale-Chall), with those in the area of international news, states and national non-political news, economy, and space at eleventh- and twelfth-grade levels. In a survey study made of science writing in several popular magazines, varying with respect to audience level, and two professional journals, to provide a reference base for high-level science writing, Funkhouser (58) found measurable differences related to educational levels of audience targets for magazines. Average sentence length ranged from 16.8 words to 27.7; vocabulary (Dale list) from 23.8 per cent to 43.4 per cent; readability (Dale-Chall) from eighth- to eleventh-grade level.

Relative shortage of reference books, with a bias against business and science, were among the findings resulting from a State University of Iowa School of Library Science survey of 389 of Iowa's 462 public libraries (121), with World Book Encyclopedia being the most common reference work (in 74 per cent). Only the following 5 of 64 reference titles checked were found in more than half of the libraries: Webster's Third New International Dictionary (65 per cent), Book List and Subscription Books Bulletin (61 per cent), Twentieth Century Authors (60 per cent), Encyclopedia Brittanica (53 per cent), and Helen Gardner's Art Through the Ages (51 per cent). Concern was expressed by the surveyors over the small number of libraries owning a number of specific, "inexpensive and indispensable" reference items. Irion (78) analyzed a word count of spoken English made by Howes (which was treated in an earlier review) and found that 240 words made up three-fourths of the 250,000 running words of the sample used by Howe, with approximately 80 per cent of these stemming from old English sources.

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